Karen Christman

List of Publications by Year
in descending order

89 papers	9,187 citations	36303 51 h-index	51608 86 g-index
94 all docs	94 docs citations	94 times ranked	8995 citing authors

#	Article	IF	Citations
1	Injectable Fibrin Scaffold Improves Cell Transplant Survival, Reduces Infarct Expansion, and Induces Neovasculature Formation in Ischemic Myocardium. Journal of the American College of Cardiology, 2004, 44, 654-660.	2.8	501
2	Naturally derived myocardial matrix as an injectable scaffold for cardiac tissue engineering. Biomaterials, 2009, 30, 5409-5416.	11.4	471
3	Fibrin Glue Alone and Skeletal Myoblasts in a Fibrin Scaffold Preserve Cardiac Function after Myocardial Infarction. Tissue Engineering, 2004, 10, 403-409.	4.6	398
4	Biomaterials for the Treatment of Myocardial Infarction. Journal of the American College of Cardiology, 2006, 48, 907-913.	2.8	361
5	Safety and Efficacy of an Injectable Extracellular Matrix Hydrogel for Treating Myocardial Infarction. Science Translational Medicine, 2013, 5, 173ra25.	12.4	357
6	Catheter-Deliverable Hydrogel Derived From Decellularized Ventricular Extracellular Matrix Increases Endogenous Cardiomyocytes and Preserves Cardiac Function Post-Myocardial Infarction. Journal of the American College of Cardiology, 2012, 59, 751-763.	2.8	334
7	Epicardial application of cardiac progenitor cells in a 3D-printed gelatin/hyaluronic acid patch preserves cardiac function after myocardial infarction. Biomaterials, 2015, 61, 339-348.	11.4	265
8	Enzymeâ€Responsive Nanoparticles for Targeted Accumulation and Prolonged Retention in Heart Tissue after Myocardial Infarction. Advanced Materials, 2015, 27, 5547-5552.	21.0	229
9	Extracellular matrix hydrogel therapies: In vivo applications and development. Acta Biomaterialia, 2018, 68, 1-14.	8.3	227
10	Simple and High Yielding Method for Preparing Tissue Specific Extracellular Matrix Coatings for Cell Culture. PLoS ONE, 2010, 5, e13039.	2.5	217
11	Biomaterials for the Treatment of Myocardial Infarction. Journal of the American College of Cardiology, 2011, 58, 2615-2629.	2.8	207
12	Nanopatterning proteins and peptides. Soft Matter, 2006, 2, 928.	2.7	202
13	Stimulation of adipogenesis of adult adipose-derived stem cells using substrates that mimic the stiffness of adipose tissue. Biomaterials, 2013, 34, 8581-8588.	11.4	197
14	Decellularized Porcine Brain Matrix for Cell Culture and Tissue Engineering Scaffolds. Tissue Engineering - Part A, 2011, 17, 2583-2592.	3.1	194
15	Injectable hydrogel therapies and their delivery strategies for treating myocardial infarction. Expert Opinion on Drug Delivery, 2013, 10, 59-72.	5.0	190
16	First-in-Man Study of a Cardiac Extracellular Matrix Hydrogel in Early and Late Myocardial Infarction Patients. JACC Basic To Translational Science, 2019, 4, 659-669.	4.1	183
17	A Bioprinted Cardiac Patch Composed of Cardiacâ€Specific Extracellular Matrix and Progenitor Cells for Heart Repair. Advanced Healthcare Materials, 2018, 7, e1800672.	7.6	181
18	Injectable hydrogel scaffold from decellularized human lipoaspirate. Acta Biomaterialia, 2011, 7, 1040-1049.	8.3	178

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19	Design and Characterization of an Injectable Pericardial Matrix Gel: A Potentially Autologous Scaffold for Cardiac Tissue Engineering. Tissue Engineering - Part A, 2010, 16, 2017-2027.	3.1	177
20	Injectable extracellular matrix derived hydrogel provides a platform for enhanced retention and delivery of a heparin-binding growth factor. Acta Biomaterialia, 2012, 8, 3695-3703.	8.3	160
21	Injectable Materials for the Treatment of Myocardial Infarction and Heart Failure: The Promise of Decellularized Matrices. Journal of Cardiovascular Translational Research, 2010, 3, 478-486.	2.4	158
22	Antibacterial and cell-adhesive polypeptide and poly(ethylene glycol) hydrogel as a potential scaffold for wound healing. Acta Biomaterialia, 2012, 8, 41-50.	8.3	152
23	Positioning Multiple Proteins at the Nanoscale with Electron Beam Cross-Linked Functional Polymers. Journal of the American Chemical Society, 2009, 131, 521-527.	13.7	137
24	Controlling stem cell behavior with decellularized extracellular matrix scaffolds. Current Opinion in Solid State and Materials Science, 2016, 20, 193-201.	11.5	135
25	Decellularized myocardial matrix hydrogels: In basic research and preclinical studies. Advanced Drug Delivery Reviews, 2016, 96, 77-82.	13.7	133
26	Injectable skeletal muscle matrix hydrogel promotes neovascularization and muscle cell infiltration in a hindlimb ischemia model. , 2012, 23, 400-412.		132
27	Evidence for Mechanisms Underlying theÂFunctional Benefits of a Myocardial Matrix Hydrogel for Post-MI Treatment. Journal of the American College of Cardiology, 2016, 67, 1074-1086.	2.8	127
28	Biomaterials for tissue repair. Science, 2019, 363, 340-341.	12.6	123
29	A naturally derived cardiac extracellular matrix enhances cardiac progenitor cell behavior in vitro. Acta Biomaterialia, 2012, 8, 4357-4364.	8.3	121
30	Fabrication and characterization of injectable hydrogels derived from decellularized skeletal and cardiac muscle. Methods, 2015, 84, 53-59.	3.8	114
31	Nanoscale Growth Factor Patterns by Immobilization on a Heparin-Mimicking Polymer. Journal of the American Chemical Society, 2008, 130, 16585-16591.	13.7	113
32	Fund Black scientists. Cell, 2021, 184, 561-565.	28.9	107
33	Oxime Crossâ€Linked Injectable Hydrogels for Catheter Delivery. Advanced Materials, 2013, 25, 2937-2942.	21.0	103
34	Restoration of left ventricular geometry and improvement of left ventricular function in a rodent model of chronic ischemic cardiomyopathy. Journal of Thoracic and Cardiovascular Surgery, 2009, 137, 180-187.	0.8	100
35	Concise Review: Injectable Biomaterials for the Treatment of Myocardial Infarction and Peripheral Artery Disease: Translational Challenges and Progress. Stem Cells Translational Medicine, 2014, 3, 1090-1099.	3.3	98
36	Enhanced neovasculature formation in ischemic myocardium following delivery of pleiotrophin plasmid in a biopolymer. Biomaterials, 2005, 26, 1139-1144.	11.4	97

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37	Increased Infarct Wall Thickness by a Bio-Inert Material Is Insufficient to Prevent Negative Left Ventricular Remodeling after Myocardial Infarction. PLoS ONE, 2011, 6, e21571.	2.5	96
38	Materials Science and Tissue Engineering: Repairing the Heart. Mayo Clinic Proceedings, 2013, 88, 884-898.	3.0	95
39	Tailoring material properties of a nanofibrous extracellular matrix derived hydrogel. Nanotechnology, 2011, 22, 494015.	2.6	94
40	Delivery of an engineered HGF fragment in an extracellular matrix-derived hydrogel prevents negative LV remodeling post-myocardial infarction. Biomaterials, 2015, 45, 56-63.	11.4	90
41	Extracellular Matrix Hydrogel Promotes Tissue Remodeling, Arteriogenesis, and Perfusion in a Rat Hindlimb Ischemia Model. JACC Basic To Translational Science, 2016, 1, 32-44.	4.1	83
42	Site-specific protein immobilization through N-terminal oxime linkages. Journal of Materials Chemistry, 2007, 17, 2021.	6.7	81
43	Modulation of Material Properties of a Decellularized Myocardial Matrix Scaffold. Macromolecular Bioscience, 2011, 11, 731-738.	4.1	78
44	Submicron Streptavidin Patterns for Protein Assembly. Langmuir, 2006, 22, 7444-7450.	3.5	77
45	Humanized mouse model for assessing the human immune response to xenogeneic and allogeneic decellularized biomaterials. Biomaterials, 2017, 129, 98-110.	11.4	73
46	Protein Micropatterns Using a pH-Responsive Polymer and Light. Langmuir, 2005, 21, 8389-8393.	3.5	65
47	Modulating in vivo degradation rate of injectable extracellular matrix hydrogels. Journal of Materials Chemistry B, 2016, 4, 2794-2802.	5.8	65
48	Engineering an Injectable Muscle-Specific Microenvironment for Improved Cell Delivery Using a Nanofibrous Extracellular Matrix Hydrogel. ACS Nano, 2017, 11, 3851-3859.	14.6	62
49	Designing Acellular Injectable Biomaterial Therapeutics for Treating Myocardial Infarction and Peripheral Artery Disease. JACC Basic To Translational Science, 2017, 2, 212-226.	4.1	60
50	Self-Assembled Colloidal Gel Using Cell Membrane-Coated Nanosponges as Building Blocks. ACS Nano, 2017, 11, 11923-11930.	14.6	59
51	Cardiac-Derived Extracellular Matrix Enhances Cardiogenic Properties of Human Cardiac Progenitor Cells. Cell Transplantation, 2016, 25, 1653-1663.	2.5	58
52	Effects of resveratrol on the autophosphorylation of phorbol ester-responsive protein kinases. Biochemical Pharmacology, 2000, 60, 1355-1359.	4.4	57
53	Pleiotrophin induces formation of functional neovasculature in vivo. Biochemical and Biophysical Research Communications, 2005, 332, 1146-1152.	2.1	54
54	Micro- and nanoparticles for treating cardiovascular disease. Biomaterials Science, 2015, 3, 564-580.	5.4	52

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55	Developing injectable nanomaterials to repair the heart. Current Opinion in Biotechnology, 2015, 34, 225-231.	6.6	52
56	Award winner for outstanding research in the PhD category, 2014 society for biomaterials annual meeting and exposition, denver, colorado, april 16â€“19, 2014: Decellularized adipose matrix hydrogels stimulate in vivo neovascularization and adipose formation. Journal of Biomedical Materials Research - Part A, 2014, 102, 1641-1651.	4.0	51
57	Tunable Protein Release from Acetalated Dextran Microparticles: A Platform for Delivery of Protein Therapeutics to the Heart Post-MI. Biomacromolecules, 2013, 14, 3927-3935.	5.4	48
58	Electrochemically Controllable Conjugation of Proteins on Surfaces. Bioconjugate Chemistry, 2007, 18, 1919-1923.	3.6	41
59	Fibroblasts influence muscle progenitor differentiation and alignment in contact independent and dependent manners in organized co-culture devices. Biomedical Microdevices, 2013, 15, 161-169.	2.8	37
60	Preventing post-surgical cardiac adhesions with a catechol-functionalized oxime hydrogel. Nature Communications, 2021, 12, 3764.	12.8	37
61	Patient-to-Patient Variability in Autologous Pericardial Matrix Scaffolds for Cardiac Repair. Journal of Cardiovascular Translational Research, 2011, 4, 545-556.	2.4	35
62	Protein Nanopatterns by Oxime Bond Formation. Langmuir, 2011, 27, 1415-1418.	3.5	31
63	Manufacturing considerations for producing and assessing decellularized extracellular matrix hydrogels. Methods, 2020, 171, 20-27.	3.8	31
64	In vivo response to dynamic hyaluronic acid hydrogels. Acta Biomaterialia, 2013, 9, 7151-7157.	8.3	30
65	Intramyocardial injection of hydrogel with high interstitial spread does not impact action potential propagation. Acta Biomaterialia, 2015, 26, 13-22.	8.3	28
66	Decellularized skeletal muscle as an inÂvitro model for studying drug-extracellular matrix interactions. Biomaterials, 2015, 64, 108-114.	11.4	27
67	Degradable Acetalated Dextran Microparticles for Tunable Release of an Engineered Hepatocyte Growth Factor Fragment. ACS Biomaterials Science and Engineering, 2016, 2, 197-204.	5.2	26
68	Decellularized Extracellular Matrix Hydrogels as a Delivery Platform for MicroRNA and Extracellular Vesicle Therapeutics. Advanced Therapeutics, 2018, 1, 1800032.	3.2	26
69	Surface initiated actin polymerization from top-down manufactured nanopatterns. Soft Matter, 2007, 3, 541.	2.7	24
70	Fibronectin and Cyclic Strain Improve Cardiac Progenitor Cell Regenerative Potential<i>In Vitro</i>. Stem Cells International, 2016, 2016, 1-11.	2.5	23
71	Dose optimization of decellularized skeletal muscle extracellular matrix hydrogels for improving perfusion and subsequent validation in an aged hindlimb ischemia model. Biomaterials Science, 2020, 8, 3511-3521.	5.4	20
72	Enzyme-targeted nanoparticles for delivery to ischemic skeletal muscle. Polymer Chemistry, 2017, 8, 5212-5219.	3.9	19

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73	Differential Î²₃Integrin Expression Regulates the Response of Human Lung and Cardiac Fibroblasts to Extracellular Matrix and Its Components. Tissue Engineering - Part A, 2015, 21, 2195-2205.	3.1	18
74	NANOPATTERNED INTERFACES FOR CONTROLLING CELL BEHAVIOR. Nano LIFE, 2010, 01, 63-77.	0.9	16
75	Binding of Anticell Adhesive Oximeâ€Crosslinked PEG Hydrogels to Cardiac Tissues. Advanced Healthcare Materials, 2015, 4, 1327-1331.	7.6	16
76	Human cardiomyogenesis and the need for systems biology analysis. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2011, 3, 666-680.	6.6	13
77	<i>In vivo</i> evaluation of bioprinted cardiac patches composed of cardiac-specific extracellular matrix and progenitor cells in a model of pediatric heart failure. Biomaterials Science, 2022, 10, 444-456.	5.4	12
78	Quantifying the Effects of Aging on Morphological and Cellular Properties of Human Female Pelvic Floor Muscles. Annals of Biomedical Engineering, 2021, 49, 1836-1847.	2.5	10
79	Targeted nanoscale therapeutics for myocardial infarction. Biomaterials Science, 2021, 9, 1204-1216.	5.4	9
80	Humanized mouse model for evaluating biocompatibility and human immune cell interactions to biomaterials. Drug Discovery Today: Disease Models, 2017, 24, 23-29.	1.2	6
81	Treating the Leading Killer. Science Translational Medicine, 2012, 4, 146fs26.	12.4	4
82	Stimuli-Responsive Materials: Enzyme-Responsive Nanoparticles for Targeted Accumulation and Prolonged Retention in Heart Tissue after Myocardial Infarction (Adv. Mater. 37/2015). Advanced Materials, 2015, 27, 5446-5446.	21.0	3
83	Injectable Hydrogels for Cardiac Tissue Regeneration Post-Myocardial Infarction. , 2016, , 377-414.		2
84	Multimodal imaging assessment and histologic correlation of the female rat pelvic floor musclesâ€™ anatomy. Journal of Anatomy, 2019, 234, 543-550.	1.5	2
85	Characterization of decellularized left and right ventricular myocardial matrix hydrogels and their effects on cardiac progenitor cells. Journal of Molecular and Cellular Cardiology, 2022, 171, 45-55.	1.9	2
86	Hydrogels: Oxime Crossâ€Linked Injectable Hydrogels for Catheter Delivery (Adv. Mater. 21/2013). Advanced Materials, 2013, 25, 3008-3008.	21.0	0
87	Editorial to â€œEvaluating biomaterials and implanted devicesâ€. Drug Discovery Today: Disease Models, 2017, 24, 1-3.	1.2	0
88	Mechanical impact of parturitionâ€related strains on rat pelvic striated sphincters. Neurourology and Urodynamics, 2019, 38, 912-919.	1.5	0
89	Processed Tissues. , 2020, , 377-399.		0